



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405

241963

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MEMORANDUM

TO: Robert L. Duprey, Director
Hazardous Waste Management Division

THRU: Diana Shannon, Chief
Superfund Remedial Branch *Diana Shannon*

Barry Levene, Chief
North Dakota/Colorado Section *Barry Levene*

FROM: Armando Saenz, Remedial Project Manager *AS*
North Dakota/Colorado Section

SUBJECT: Request for Removal Action Approval at the 48th
and Holly Landfill, Operable Unit No. 6, Sand
Creek Industrial Superfund Site, Commerce City,
Colorado: ACTION MEMORANDUM FOR AN ENFORCEMENT-
LEAD REMOVAL ACTION

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the proposed PRP-financed Removal Action described herein for Operable Unit No. 6 (gaseous emissions from the 48th and Holly Landfill), Sand Creek Industrial Site, Commerce City, South Adams County, Colorado. The lead respondents for the action are Browning & Ferris Industries (BFI) and Burlington Northern Railroad (BNR).

The subject Removal Action for this Site is deemed appropriate to the factors set forth in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sections 104(a)(1) and 104(a)(2) and the National Contingency Plan (NCP), 55 Fed. Reg. 8667 (March 8, 1990) (to be codified at 40 C.F.R. Sec. 300) based on the findings of (1) actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants, NCP, 40 C.F.R. Sec. 300.415 (b)(2)(i), and (2) threat of fire or explosion, NCP, 40 C.F.R. Sec. 300.415 (b)(2)(vi).

This Removal Action is not a Fund-financed action. The Removal Action is scheduled to extend through April 30, 1991. A Unilateral Order (Docket No. CERCLA-VIII-90-20) delineating the PRP's role in the Removal Action was signed August 15, 1990, and became effective August 25, 1990.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Removal Site Evaluation

The 48th and Holly Street Landfill is located in the southern portion of the Sand Creek Industrial Superfund Site, 10 miles northeast of downtown Denver, in Commerce City, Colorado (Figure 1). The Sand Creek Site is approximately bounded to the north by Interstate 270, to the east by Ivy Street, to the south by East 48th Avenue, and to the west by Vasquez Boulevard. Most of the Site and surrounding area is industrialized and contains trucking firms, petroleum and chemical supply and production companies, warehouses, small businesses and a few residences.

The closed 48th and Holly Street Landfill is a distinct and separate part of the 1415-acre Sand Creek Superfund Site. Three other potential source areas are also included in the Site: 1) the Colorado Organic Chemical Company which formerly manufactured pesticides, 2) the L.C. Corporation which previously served as an acid disposal pit area, and 3) a former oil refinery at the Gallagher property, previously referred to as the Oriental Refinery (Figure 2). To assess and remediate the Site efficiently, EPA divided the Site into subareas or operable units (OUs) according to the type of contaminants present, type of media affected, and physical characteristics. Six OUs are currently identified at the Sand Creek Superfund Site and two are related to the landfill (OU3 and OU6). The six operable units are as follows:

Operable Unit No. 1 - Within the Colorado Organic Chemical Company source area, excavation of 10 cy of soils highly contaminated with pesticides (concentrations > 1,000 ppm Halogenated Organic Compounds); subsurface soil contaminated with

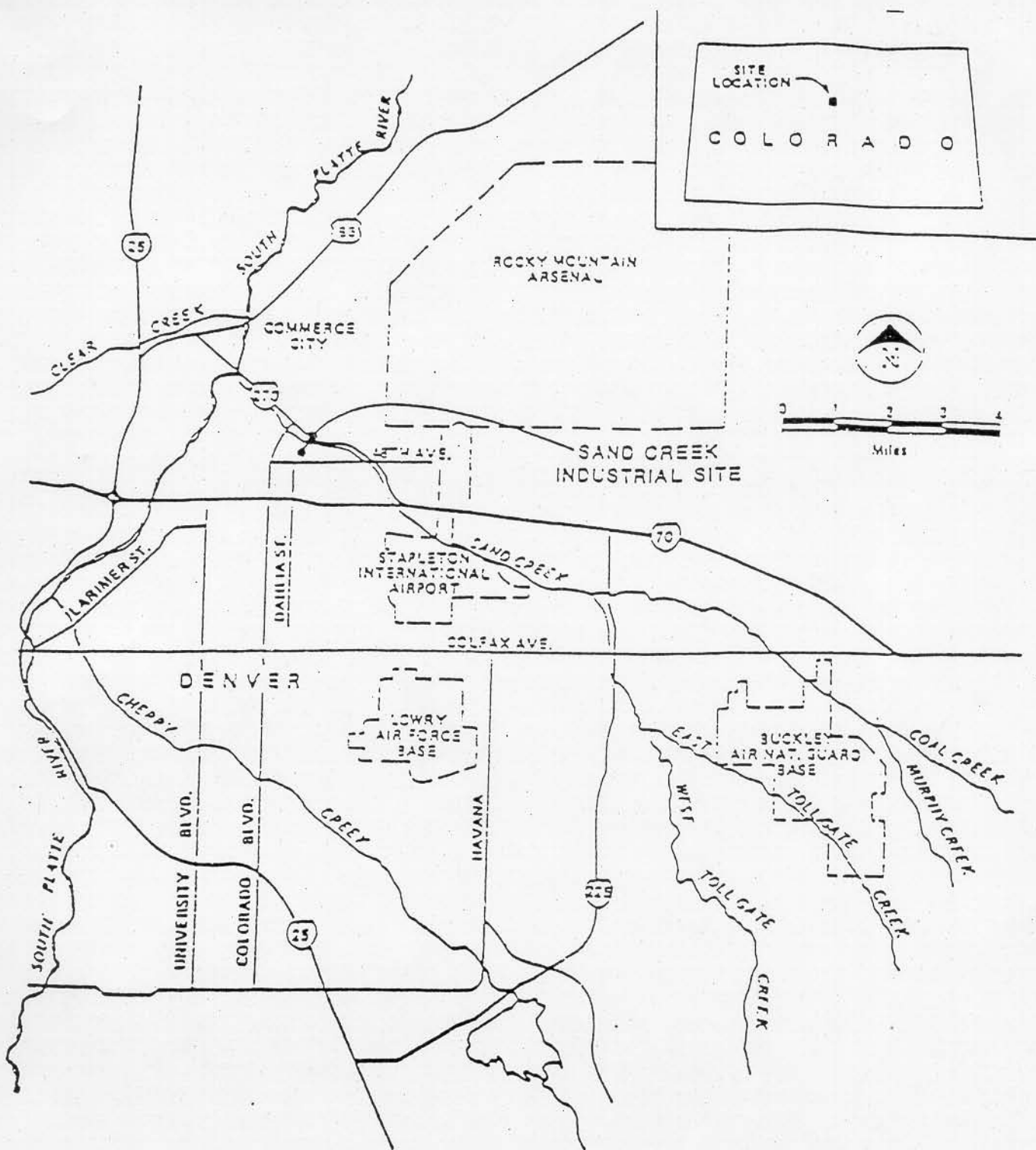


Figure 1 Site Location

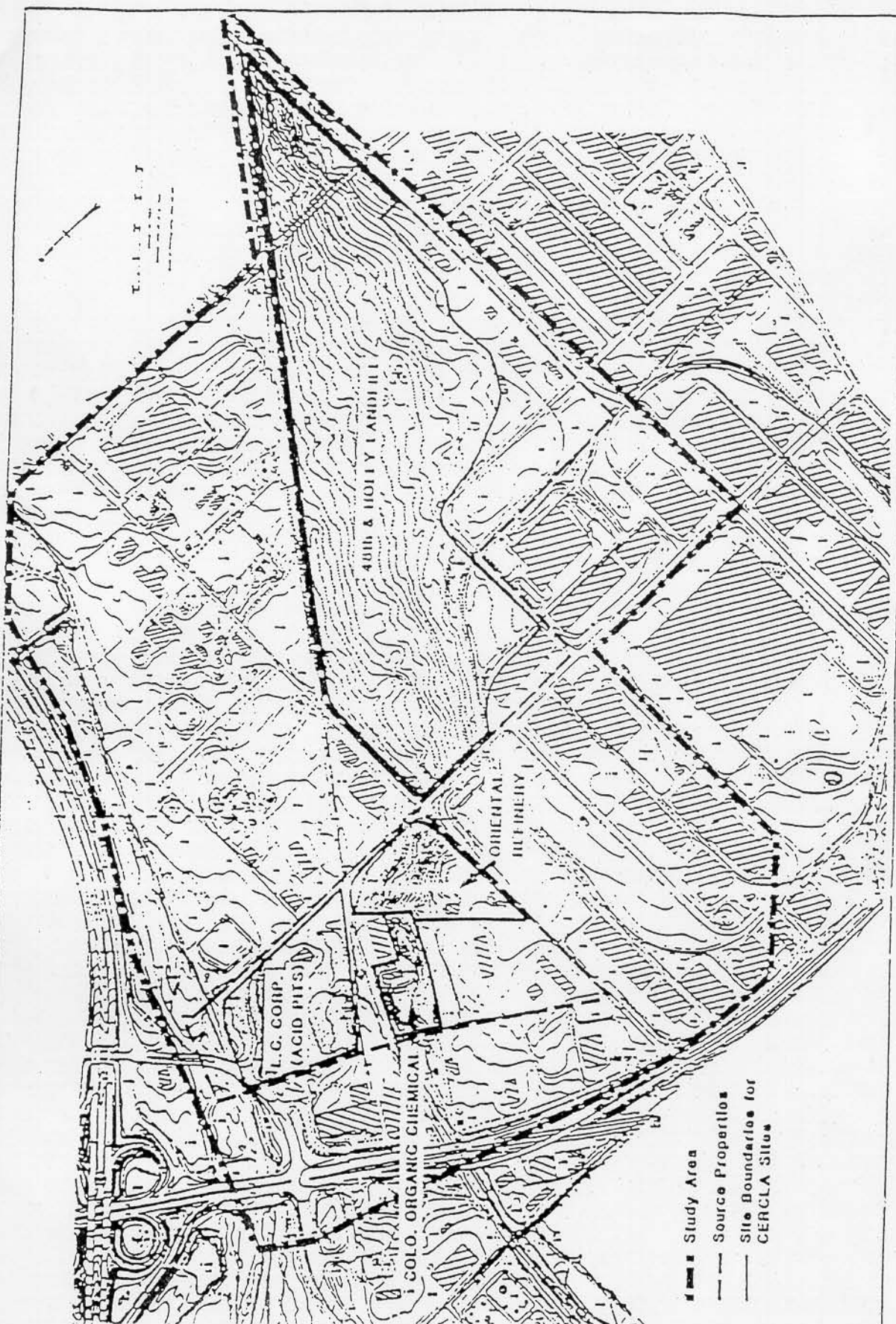


Figure 2 Source Areas

volatile organic compounds; and contaminated buildings and tanks.

Operable Unit No. 2 - Contaminated soils in the vicinity of the L.C. Corporation property.

[Operable Unit No. 3 - Contaminated surface water and groundwater in the vicinity of the 48th Avenue and Holly Street Landfill.]

Operable Unit No. 4 - Contaminated groundwater underlying the entire Site.

Operable Unit No. 5 - Within the COC area surface soils is contaminated with arsenic, chromium and pesticides (concentrations < 1,000 ppm Halogenated Organic Compounds).

[Operable Unit No. 6 - Gaseous emissions from the 48th Avenue and Holly Street Landfill.]

Operable Unit No. 3 (OU3) was initially established to address all media at the landfill except the methane gas and its hazardous constituents. However, an amendment (September, 1990) to the OU3 Administrative Order for the Supplemental RI will allow for the inclusion of methane gas and its hazardous constituents after the Removal Action. Presently, Operable Unit No. 6 (OU6) addresses only the methane gas and its hazardous substances. The focus of this Action Memo is on the replacement of the existing inadequate gas collection system with a state-of-the-art system to better control emissions from the landfill thereby minimizing the release of hazardous substances and reducing the possibility of combustion and explosion.

2. Physical Location

The 48th and Holly Street Landfill lies within an area bounded on the northeast by the former Chicago Rock Island and Pacific Railroad tracks, on the north by 52nd Avenue, on the west by Dahlia Street, and on the south by East 48th Avenue (Figure 3). Total surface area of the landfill is approximately 120 acres, and refuse depth is estimated to range from 15 to 60 feet, averaging 30 to 40 feet deep west of Ivy Street. Refuse is estimated to be 8 to 10 feet deep east of Ivy Street. The compacted volume of refuse is approximately 7 million cubic yards.

SITE LOCATION MAP

48th and Holly Landfill

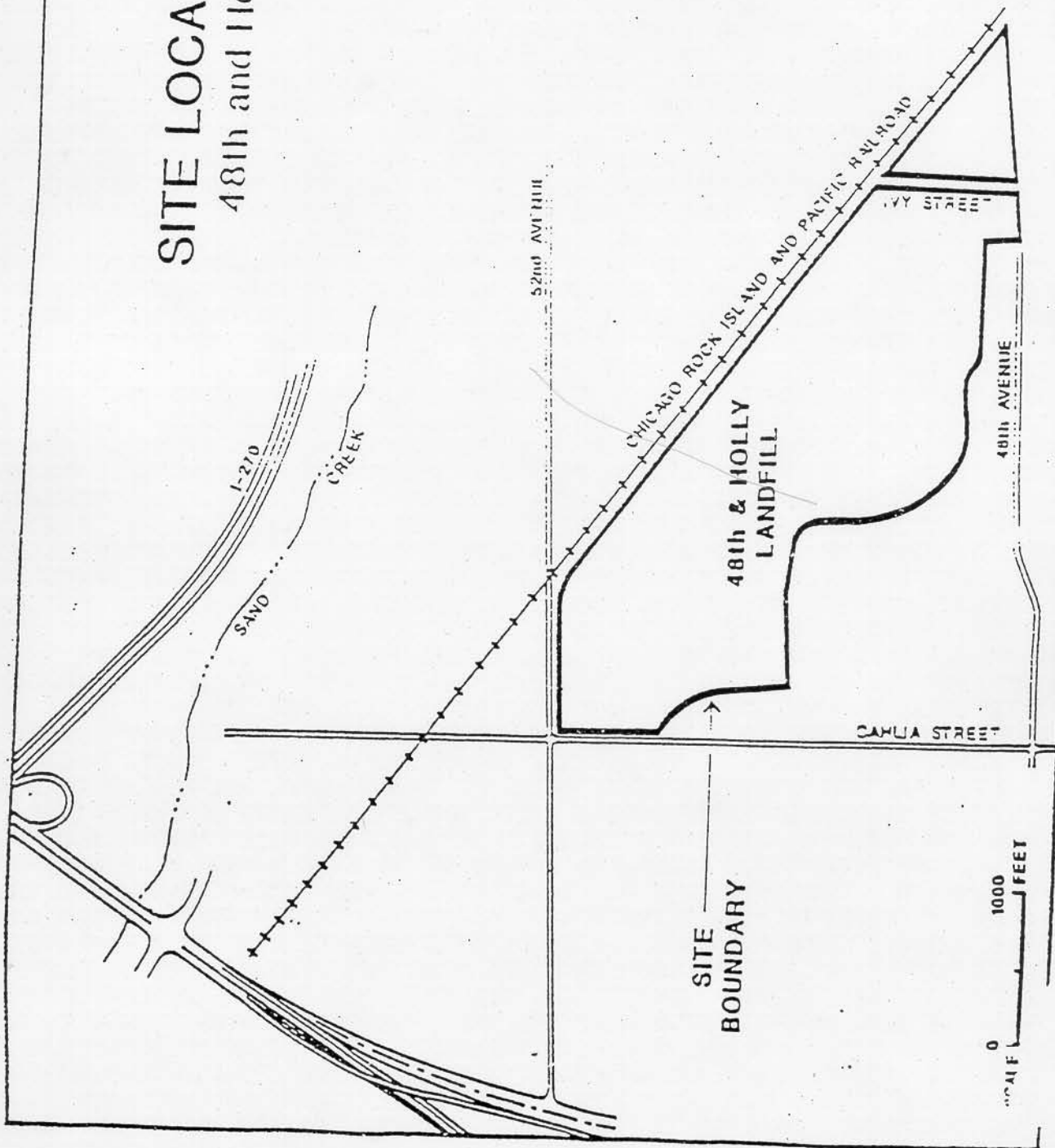
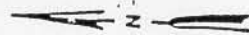


Figure 3 Site boundaries

3. Site Characteristics

Prior to landfilling activities, the landfill area was used largely for agricultural purposes. Aerial photographs of the area in the 1950s show the presence of crop land, pasture, livestock, a pond, and wetlands. An airfield, active prior to 1956, was located immediately southeast of the current landfill Site. Pits resulting from sand and gravel mining operations in the present landfill area are evident in aerial photographs of the Site taken from 1953 to the late 1960s when landfilling activities began. By 1964, commercial and industrial developments had been built along the terrace bordering the south side of the Site, and Dahlia Street was constructed along the western edge. It is reported that a finger drain system was installed prior to 1968 to intercept and route groundwater seepage from terrace deposits along the adjacent southern escarpment, beneath the landfill area to a culvert discharging immediately north of the Site. The exact location and design of this drainage system is unknown.

Municipal landfilling operations at the Site began in 1968. The landfill was originally known as the 48th Avenue Disposal Park and was owned and operated by Mr. Robert Calvert. In 1971, Landfill Inc., currently a subsidiary of BFI, Inc., purchased the property and continued disposal operations in the western portion of the Site. Wastes accepted at the landfill included household, industrial, institutional, commercial, and agricultural wastes. Operating requirements were to exclude known hazardous wastes and pathological wastes. The Site's filling contract limited wastes to "nonperishable" materials, but records of specific wastes disposal at the facility were not kept. Refuse was sorted prior to burial and watered to aid compaction, thus also increasing the speed and quantity of methane gas generation. Metal wastes such as stoves and refrigerators were reportedly placed along the railroad right-of-way adjacent to the northern boundary of the Site. The landfill was closed and revegetated in 1975 in accordance with applicable regulations.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminate

In June 1977, two men were killed in two explosions occurring in a water conduit under construction approximately 75 feet north of the landfill, near the intersection of 52nd Avenue and Dahlia Street. Five persons were also injured in the rescue attempt. Based on results from a subsequent sampling investigation, CDH, TCDHD, and the South Adams County Fire Prevention Bureau (SACFPB) concluded that the explosion was caused by methane gas migrating from the landfill. In response to the explosion and the detection of combustible gases migrating offsite, two methane-gas venting systems were installed at the landfill. In a cooperative effort between the current property owner, BNR, and the Tri-County District Health Department (TCDHD) and the Colorado Department of Health (CDH), an experimental passive venting system utilizing wind turbines was installed along the perimeter of the western 25-acre portion of the landfill in 1978. In early 1980, an additional passive methane-gas venting system was installed in the eastern portion (east of Ivy Street) of the landfill by the property owner, Mr. Ken Valis of Colorado Paint Company. Methane monitoring was conducted by the TCDHD and the SACFPB in businesses surrounding the landfill following the explosion. The detection of methane gas in nearby buildings especially around cracks in foundations and basement walls, supported the conclusion of off-site migration of methane gas. TCDHD determined the passive venting system to be ineffective and in 1981, BNR installed an active venting system along the southwest and northwest edge of the landfill. Gases collected in this system are vented to the surface through three stacks. Please see Figure 4. Lower explosive limits were measured in 11 wells in the landfill vicinity in August 1990. The results from this survey and additional sampling investigations conducted for further delineation of landfill gas are summarized in the following section.

Air monitoring activities have been conducted at and near the landfill. CDH sampled landfill gas in December 1969 and February 1970 and reported methane-gas levels ranging from 33 to 58 percent

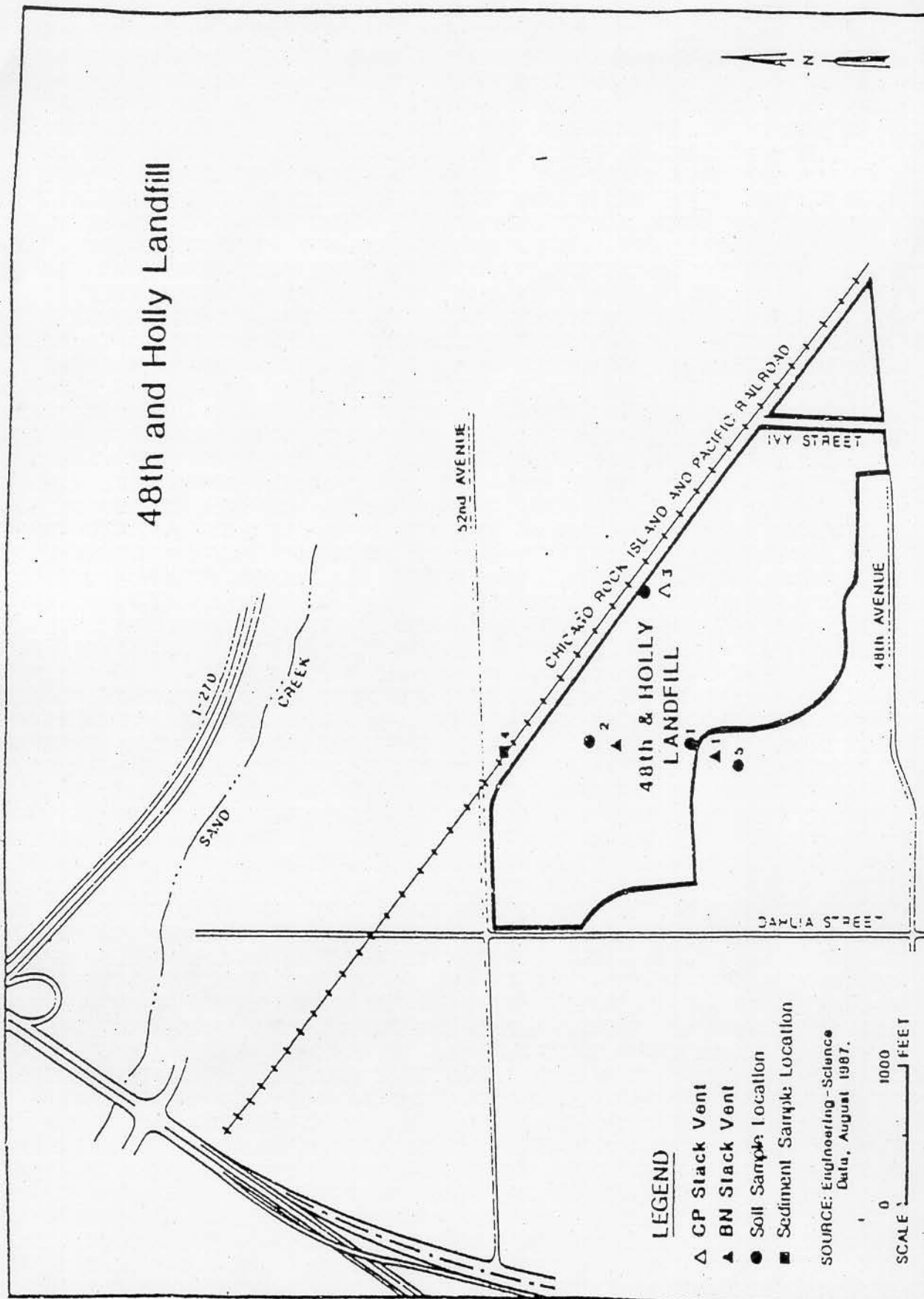


Figure 4 Stack Vents

of sample volume. The higher the percentage of methane in the gas, the greater the risk of explosion. Greater than 5 percent methane is combustible.

In response to the gas explosion in a water conduit immediately north of the landfill, TCDHD and CDH sampled gases at 14 places along the conduit, 4 areas in the landfill, and 11 other locations in the vicinity. It was determined that methane gas had migrated from the landfill and was responsible for the explosion. In late 1977 and early 1978, TCDHD and SACFPB surveyed methane levels at businesses in Adams County near the landfill. Methane-gas levels at two businesses were reported to be as high as 18 percent and 100 percent lower explosive limit (LEL). From April 3, 1978, through June 30, 1978, methane levels were monitored weekly in 30 boreholes in and adjacent to the landfill. Methane concentrations ranged from 0 to 60 percent by volume.

Three gas probes were installed in soil outside the landfill to monitor off-site gas migration and the effectiveness of the western passive venting system constructed in 1978. Methane-gas levels prior to operation ranged from 18 to 48 percent by volume and had decreased to a range of less than 5 to 10 percent after 3 months of operation.

Samples have been collected since 1982 at 12 gas probes installed by BNR to monitor the effectiveness of the active venting system. Methane levels in probes ranged from 0 to 67 percent by volume with several readings in the range of combustible concentrations (5-15 percent by volume).

In August 1987, Engineering Science (ES) collected and analyzed air samples from the 3 active methane-gas venting stacks to determine if emissions could cause adverse health effects. In addition, soil flux samples of surrounding soils were obtained to assess emissions resulting from the upward diffusion of gas through the landfill cover. Sixteen VOCs were detected in the landfill gas samples, three of which are RCRA listed hazardous substances: methylene chloride, benzene and vinyl chloride. The analytical results from this investigation are presented in Table 1. Concentrations in vent No. 1 were considered to be most representative of landfill conditions. The

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TABLE 1
RESULTS OF STACK VENT SAMPLING
(ES, 1987)

Target Compound	Concentration		
	(mg/m ³)	(ppm)	
	Vent 1	Vent 2	Vent 3
Benzene*	0.150	1.631	0.418
Chlorobenzene	0.005	0.355	0.053
Chloroform	ND	0.093	4.383
1,1-Dichloroethene	ND	3.600	ND
1,2-Dichloroethene	1.552	12.211	0.129
Chloromethane (methyl chloride)	ND	ND	13.665
Trichlorofluoromethane	0.307	1.415	16.124
Ethylbenzene	0.060	9.864	0.947
Methylene chloride* (dichloromethane)	0.051	3.606	10.956
Tetrachloroethene	0.489	4.815	3.527
1,1,1-trichloroethane	ND	0.130	0.593
Toluene	0.786	1.743	3.948
Xylenes	ND	17.155	0.531
Vinyl chloride*	0.141	0.083	0.012
Chloroethane	ND	0.027	ND
Trichloroethene	0.179	0.540	0.092

ND = Not Detected

*RCRA listed hazardous substances

collection system associated with vent No. 2 is located along the western edge of the landfill and is expected to be influenced by contaminated soils at the Gallagher property. Vent No. 3 is not generally operated and it is believed that some of the detected concentrations may be abnormally high since the system was not in operation prior to the sampling event.

In May 1990, Harding Lawson Associates (HLA) was contracted by BFI to sample gas condensate at 4 locations on the active methane-gas venting system. The data was collected for use in designing the new landfill gas removal system. The condensate samples were analyzed for a comprehensive suite of parameters. No VOCs, pesticides, or polychlorinated biphenyls (PCBs) were detected in the samples. Most of the condensate samples were acidic and contained generally low concentrations of oil and grease and hazardous substances such as metals, ammonia, phenols, isophorone and naphthalene. However, condensate from a portion of the landfill that had burned underground exhibited a neutral pH and high concentrations of suspended solids, oil and grease, alkalinity and relatively high concentrations of hazardous substances including: dichlorobenzene, naphthalene, fluorene and phenanthrene.

In August 1990, Harding Lawson Associates measured lower explosive limits in groundwater wells while conducting water level measurements. The lower explosive limits were exceeded in several wells outside the landfill boundary as shown in Table 2. The locations of the wells are shown in Figure 5.

5. NPL Status

On December 30, 1982, EPA added the Sand Creek Industrial Site to the Superfund National Priorities List (NPL) after receiving a composite migration score of 59.65. The landfill was included in the Superfund Site due to explosion and fire hazards associated with landfill gas emissions and the detection of elevated concentrations of volatile organic compounds (VOCs) and inorganic contaminants in ground water downgradient of the landfill. EPA denied a request filed by BNR to exclude the landfill from the Superfund Site in 1983. Subsequent field investigations conducted by the potentially

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TABLE 2
LOWER EXPLOSIVE LIMITS

Well ID	% L&L
SC-15A	9.0
SC-16A	35.0
L-3	100.0
L-2	100.0
L-1	75.0
ERB-18	20.0
ERB-19	100.0
SC-22	50.0
ERB-16	100.0
SC-10-A	100.0
ERB-6	100.0

*Transmittal memorandum HLA 8/15/90.

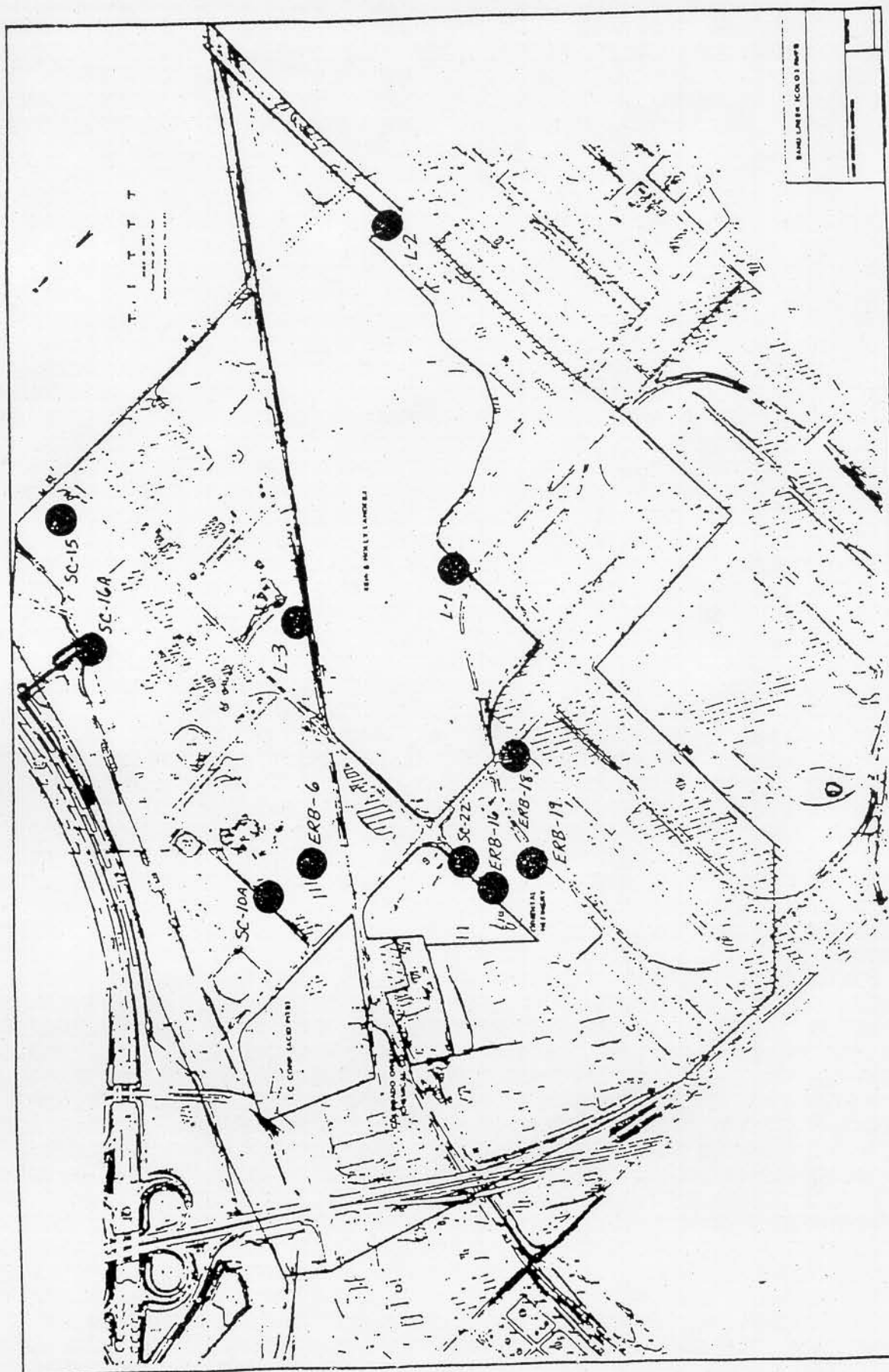


FIGURE 5 WELLS MEASURED FOR LEL

responsible parties' (PRPs') contractors and EPA included analyses of ground water, surface water, soil, and air samples. A Remedial Investigation (RI) of the entire Sand Creek Superfund Site was performed by EPA from 1986 to 1988. Elevated levels of VOCs, semi-volatiles, and inorganics were detected in ground water in and around the landfill. In addition to methane, air monitoring at the Site has revealed the presence of hazardous substances in the form of VOCs and some semi-volatile compounds in the landfill gas.

B. Other Actions to Date

Other actions to date include the installation of the two passive venting systems (1978-1980) and conversion of one to an active system in 1981. Intermittently, actions have been taken to repair damage to roads which have buckled from subsidence within the landfill. From 1986 to 1988 a remedial investigation (RI) of the entire Sand Creek Site was conducted. The 48th and Holly Landfill was included in the RI but was not the focus of the investigation. Currently an RI/FS is being planned specifically for the 48th and Holly Landfill under OU3. The OU3 RI/FS will further delineate the nature and extent of the methane gas and its hazardous constituents after the OU6 Removal Action. The Removal Action contributes to the remedial activities at the landfill by eliminating a hazardous condition which would inhibit further Site investigation work. The Removal Action will also provide data useful to Site remediation. Such data includes depth to refuse, depth to groundwater and gas and leachate characterization. An EE/CA report was finished in mid-November 1990 by the Respondents to evaluate removal action alternatives and select a remedy to better control gas emissions and condensate production at the 48th and Holly Landfill. The EPA reviewed and approved the EE/CA on November 29, 1990. The ARARs were reviewed and commented upon by the State. The discussion in the EE/CA fully addresses all State and Federal ARARs anticipated in the action.

EPA has determined that the present deteriorating gas collection system presents an unacceptable level of risk due to the potential for off-site gas migration and subsequent fire and explosion and potential for exposure to hazardous substances. Therefore, a Removal Action is justified.

C. State and Local Authorities' Roles

The Colorado Department of Health and the Tri-County District Health Department have been involved in the Site activities in an advisory and supporting capacity. The state has maintained an interest in being appraised of Site activities and will likely take on an oversight role during the Removal Action. Tri-County District Health Department has supported EPA in its efforts to document well users in the landfill vicinity. SAC and Commerce City officials have and will continue to be appraised of the Removal Action.

III. THREATS TO PUBLIC HEALTH AND WELFARE OR THE ENVIRONMENT

The mechanics of landfill gas movement in the subsurface is extremely complicated. The gas will tend to migrate through refuse and surrounding soil on a path that offers the least resistance. Weather conditions and associated changes in barometric pressure will significantly affect the rate of migration. Wet or frozen ground can act to contain landfill gas and promote increased horizontal migration. Maximum distances of methane gas migration are difficult to predict, and distances greater than 1000 feet have been observed in some landfills.

Methane gas has the demonstrated potential to migrate and accumulate in structures near the landfill, possibly at explosive concentrations in poorly ventilated areas. Typical points of methane gas entry in buildings include crack in foundations and basement walls, floor drains, and other utility openings. Volatilization of buried wastes and subsequent diffusion through soil or release from landfill vents is a primary mechanism for releases to air. The principal concern with this pathway is with the volatile compounds. Inhalation is the primary exposure route via this pathway.

Nearby populations are at risk from hazards associated with both potential landfill gas explosions and fires, and inhalation of volatile compounds. The potentially affected population in the vicinity of the landfill includes nearby residents (25-50), trespassers, local workers (50-300), and children (200-600) at a school located 1.25 miles northeast (downwind) of the landfill. The nearest residential community is located less than 1 mile northeast of the landfill and consists of between 300 to 700 persons.

Basements are relatively more susceptible to accumulations of methane gas than above ground structures. One of the

objectives of a survey conducted by TCDHD in 1990 was to determine the existence of basement structures in the vicinity of the Sand Creek Superfund Site. Approximately 2 percent of the 420 properties were reported to have basements. Additional people at a potentially increased level of risk include workers involved in excavation and digging activities and persons working underground near the landfill.

IV. ENDANGERMENT DETERMINATION

An endangerment assessment pertaining exclusively to the landfill area was performed by ES in 1987 for the FRPs. A final evaluation of the threat to public health and welfare from landfill contaminants, including gaseous emissions, has not yet been performed or approved by EPA. Specifically, landfill gas migration pathways and representative contaminant concentrations are not yet adequately defined. However, based on the history of explosion and data indicating hazardous substances are present, EPA has determined that actual or threatened releases of the methane gas and its hazardous substances in and emanating from the Site, if not addressed by implementing the response action selected in this Action Memo, may present an imminent and substantial endangerment to public health or welfare, or the environment.

As discussed previously, methane gas and its hazardous substances have been detected in gaseous emissions from the vicinity of the landfill. Combustible concentrations of methane gas have been observed at and offsite of the landfill. In addition, several semi-volatile and inorganic contaminants have been detected at varying levels in the landfill gas condensate. The primary threat to public welfare from landfill gas emissions is associated with the potential for combustion or explosion. As mentioned above, two persons were killed in an explosion resulting from methane gas migrating offsite. An additional danger to the public lies with the potential for exposure to the hazardous constituents in the gas and condensate.

Methane is a saturated aliphatic hydrocarbon and a principal constituent of natural gas, and is widely used as a domestic fuel. Methane has no known biological effects and is considered biologically inert or nontoxic. Pure methane gas is odorless, but the typical landfill gas mixture of methane and other constituents can be odoriferous and toxic. From a health and safety perspective, methane may act as a simple asphyxiant by replacing oxygen in poorly ventilated areas. Methane has a low density and tends to accumulate beneath ceilings, landfill caps, and other

impermeable barriers. The greatest potential hazard from methane gas is associated with its flammability. Methane is combustible between concentrations of approximately 5 to 15 percent by volume and may result in an explosion if ignited in confined areas. In the mining industry, methane is commonly referred to as marsh gas or fire days and is the principal cause of explosions in coal mines.

Most of the volatile organic compounds detected in the landfill gas are commonly known as organic solvents. The VOCs generally exhibit similar physicochemical properties in that they readily undergo a phase change from the liquid to vapor state, are very soluble and are not persistent in the environment. Volatilization of VOCs is enhanced by an increase in temperature or reduction in vapor pressure. The usual mode of uptake of these compounds is by inhalation. Health effects associated with VOC exposure are dose dependent. Symptoms may range from mild manifestations such as dizziness, confusion, nausea, skin and eye irritations, and headaches, to respiratory paralysis and death. The following are known health threats associated with the three RCRA listed hazardous substances that were detected in the landfill gas samples:

Benzene: At low concentrations this compound can produce local irritation to skin, eyes, and upper respiratory tract. Acute exposures can lead to central nervous system disorders and major system damage. Benzene can also cause blood changes and chromosome damage, has been linked to increased occurrences of leukemia, and is carcinogenic.

Vinyl Chloride: At low concentrations, this compound is severely irritating to the skin, eyes, and respiratory tract. Excessive exposure can result in central nervous system depression and gastrointestinal malfunctions, along with liver and kidney damage. This compound is classified as a probable carcinogen.

Methylene Chloride: This compound causes human systemic effect by ingestion and inhalation, altered sleep patterns, convulsions, and change in cardiac rates. Methylene chloride has been demonstrated to be carcinogenic to both rats and mice, also mutagenic to Salmonella. This compound is flammable in high concentration and will form explosive mixtures in a high oxygen atmosphere.

V. PROPOSED ACTIONS

A. Proposed Actions

The proposed removal actions developed in the EE/CA report to address gases emanating from and associated with the landfill are as follows:

Installation and operation of an active gas-collection system;

Flaring of gas-collection system emissions;

Collection and treatment of landfill gas condensates; and

Discharge of pretreated condensate to a sanitary sewer system.

The primary objectives of these proposed actions are to reduce the possibility of methane-gas explosion/fire and minimize public exposure to hazardous substances in the gas. A more detailed description of response actions is presented in the Engineering Evaluation/Cost Analysis (EE/CA) report for the landfill, included as Attachment A.

An active gas-collection system utilizing a centrifugal blower system was chosen based on implementation, cost and effectiveness. A passive system was not considered an alternative for the Site since it has been shown to be ineffective in the past for the conditions at the 48th and Holly Landfill. The passive system did not effectively lower the methane concentration below the lower explosive limit. The active system is the fundamental aspect of the chosen alternative and serves as a prerequisite for the removal alternatives addressed in the EE/CA. The removal alternatives essentially focus on the treatment of the condensate and reuse or flaring of the gas.

Preliminary design considerations indicate the methane-gas concentrations are adequate for flaring. This technique will reduce explosion, toxicity, and odor hazards that could be associated with direct gas ventilation. However, gas reuse is an attractive ancillary aspect to gas collection systems and is also being considered. Negotiations with third parties regarding the possibilities of reuse are in process. Gas reuse is not a fundamental aspect of the removal action and will not affect timing of construction.

Condensate will be produced as gases extracted from the warm landfill interior coil and water vapor condenses on the surfaces of the gas-collection system. This liquid will be collected and managed in accordance with all Federal and State standards and Applicable or Relevant and Appropriate Requirements (ARARs), which are discussed in detail in the EE/CA report (HLA, 1990), Appendix A.

The proposed alternative treatment methods those reduce the concentration of organic and inorganic substances in the condensate to the levels (or lower) required for discharge to the City and County of Denver Sanitary Sewer and Metropolitan Denver Sewage Disposal District No. 1 Central Wastewater Treatment Plant (Denver Metro). Discharge to Denver Metro can be accomplished by connecting a 4-inch service line to an 8-inch sewer located under 50th Avenue.

The Denver Metro Central Treatment Plant is an activated-sludge type secondary wastewater treatment facility. The Denver Metro central facility is designed for an average daily flow of 150 million gallons per day (MGD) and a peak flow of 200 MGD. It is currently receiving an average daily influent wastewater flow of 150 MGD. The expected addition of 400 gpd of pretreated condensate would have a negligible effect on the hydraulic loading to the facility.

The pretreatment requirements of the City and County of Denver and Denver Metro have been reviewed based on current condensate quality data. It is expected a pretreatment facility will be required to adjust the condensate pH before discharge to the sewer.

The treatment processes were selected based on their ability to treat the condensate to dischargeable levels. The treatment process includes (1) pH adjustment (acid or caustic) and (2) a compliance monitoring system. A process flow diagram for the chosen remedy is shown in Figure 6.

B. EE/CA

An EE/CA report (HLA, November 14, 1990) was prepared for the 48th and Holly Landfill and is attached to this Action Memorandum as Appendix A. The report identifies site conditions that justify a removal action, identifies removal action objectives, discusses the removal alternatives and presents the chosen remedy.

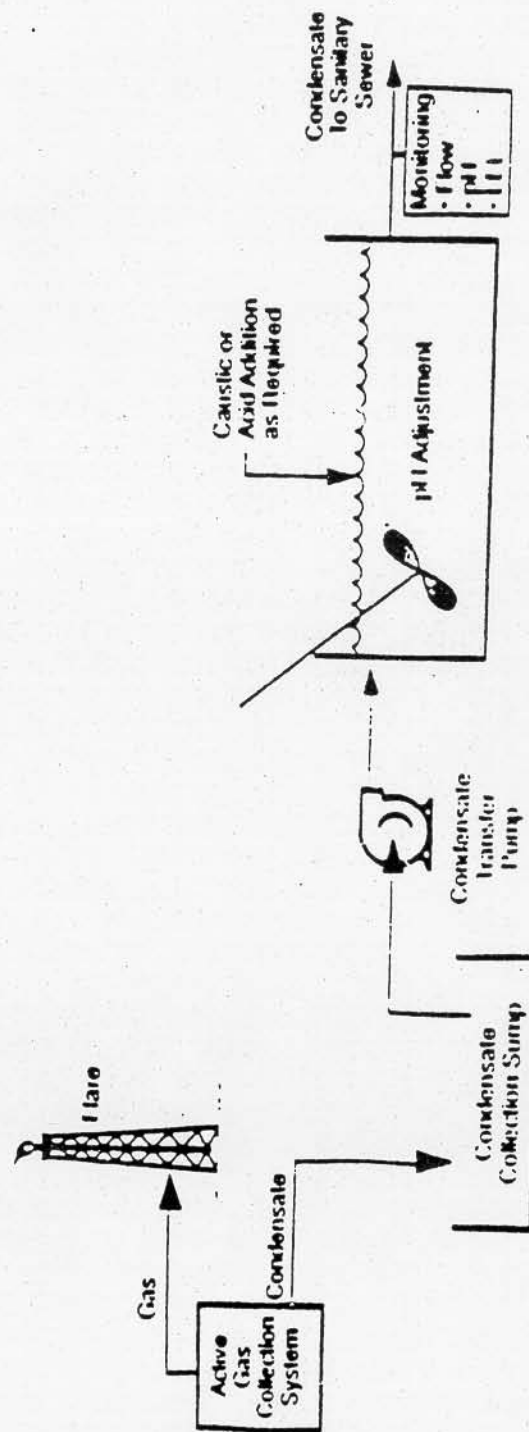


Figure 6

Alternative No. 2 Active Gas Collection
Condensate Collection,
Disposal To Sanitary Sewer
48th & Holly Landfill

C. ARARs

ARARs for the Removal Action are addressed in the EE/CA and are incorporated herein by reference. The ARARs were reviewed and commented upon by the State. The discussion in the EE/CA fully addresses all State and Federal ARARs anticipated in the action and they will be attained.

The removal action is tentatively set to begin in mid-January 1990 and is expected to continue to April 1991. This schedule is dependent on receiving the following deliverables in a timely manner; Pre-final and Final Designs, Operation and Maintenance Plan, Draft and Final Sample and Quality Assurance Plans, Pre-final and Final Inspections, and a Response Action Report.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD NO ACTION BE TAKEN OR ACTION DELAYED

If no removal action is taken at the Sand Creek 48th and Holly Landfill, the potential for off Site migration, combustion and explosion and public exposure to VOC's remains high. Individuals working on or near the Site and local residents would be at risk, until the implementation of the possible remedy(ies) from the ongoing Remedial Investigation/Feasibility Study for OU3. The RI/FS is expected to be completed in September 1992.

VII. ENFORCEMENT

A Unilateral Order for the Removal Action for Operable Unit No. 6 with the Respondents, (Burlington Northern Railroad Company, Browning-Ferris Industries, Inc. and Landfill Inc., a subsidiary of Browning-Ferris Industries) was signed August 15, 1990 and became effective August 25, 1990. According to the Order, should respondents violate the Order or any portion thereof, EPA may carry out the required actions unilaterally, pursuant to section 104 of CERCLA, 42 U.S.C. 9604, and/or may seek judicial enforcement of the order pursuant to section 106 of CERCLA 42 U.S.C. 9606. Respondents may also be subjective to any action for cost recovery, civil penalties of up to \$25,000 per day per violation of the Order, and/or punitive damages (including treble damages), as provided in Sections 107(a), 106(b), and 107(c)(3) of CERCLA, 42 U.S.C. & 9607(a), 9607(b), and 9607(c)(3), respectively, for failure to comply with the terms of the Order.


VIII.COMMUNITY RELATION ACTIVITIES AND RESPONSIVENESS SUMMARY

EPA on three occasions, in May and June of 1990, held public presentations addressing all the Superfund Sites in South Adams County (except for the Rocky Mountain Arsenal). At each presentation EPA informed the public of its intentions for the Removal Action at Operable Unit OU6 of the Sand Creek Industrial Site. It also encouraged public participation.

Interviews with interested or affected parties were conducted, a Community Relations Plan (CRP) was prepared and four information repositories were established as part of the community relation activities for the site-wide Remedial Investigation. Pursuant to Sections 300.415 (m) (4) and 300.820 of the EPA regulations, a notice of availability was published on September 24, 1990 in The Commerce City Sentinel and The Commerce City Beacon. Also, a public comment period was announced and held from October 9, 1990 to November 9, 1990 for the EE/CA, pursuant to 300.820 (a). No comments were received by EPA on the EE/CA, therefore, there was no need to develop a Responsiveness Summary.

IX. RECOMMENDATION

This decision document represents the selected Removal Action for the Sand Creek Superfund Site Operable Unit OU6, located in Commerce City, CO, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the Site. Because the conditions at the Site meet the NCP, 40 CFR section 300.415(b)(2) criteria for a removal, I recommend your approval of the proposed removal action. This recommendation is requested to expedite response actions due to the nature of the threat described herein.



APPROVED
Robert L. Duprey, Director
Hazardous Waste Management Division

12/24/90

DATE

DISAPPROVED
Robert L. Duprey, Director
Hazardous Waste Management Division

DATE